

## MATERIAL SAFETY DATA SHEET

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**COMPANY ADDRESS:** MICRO FLO COMPANY  
P.O. BOX 772099  
MEMPHIS, TN 38117

**EMERGENCY TELEPHONE NUMBERS:**  
(800) 424-9300 (CHEMTREC, transportation and spills)  
(800) 900-4044 (Poison Control Center, human health)  
(800) 345-4735 (ASPCA, animal health)

**PRODUCT NAME:** NU-COP 50DF  
**CHEMICAL NAME:** Cupric hydroxide  
**CHEMICAL FAMILY:** Transition metal  
**PRODUCT CODE:** EPA Reg. No. 51036-269

### SECTION 2 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	PERCENTAGE	CAS NUMBER	OSHA PEL	ACIGH TLV
Copper hydroxide	77.0	20427-59-2	1 mg/m <sup>3</sup> (inhalable dust/mist)	1 mg/m <sup>3</sup> (inhalable dust/mist)

### SECTION 3 - HAZARDS IDENTIFICATION SUMMARY

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

**EMERGENCY OVERVIEW:** Fine, blue-green powder with no appreciable odor.

- May be harmful if swallowed, inhaled or absorbed through skin.
- Causes severe eye irritation.
- Avoid breathing dusts or spray mist.
- Avoid contact with eyes, skin or clothing.
- Keep out of reach of children.

**POTENTIAL HEALTH HAZARDS:**

**EYE** - Severely irritating to the eyes. If not removed promptly, will injure eye tissue, which may result in permanent damage. Degree of injury will depend on the amount of material that gets into eye and the speed and thoroughness of the first aid treatment.

**SKIN** - Prolonged or repeated skin contact may cause irritation.

**INHALATION** - Moderately irritating to respiratory tract. Prolonged inhalation may be harmful.

**INGESTATION** - May be harmful if swallowed.

**POTENTIAL PHYSICAL HAZARDS:** Can decompose at high temperatures forming toxic gases.

**ENVIRONMENTAL HAZARDS:** Toxic to wildlife and domestic animals.

### SECTION 4 - FIRST AID MEASURES

**IF SWALLOWED:** Call a doctor or get medical attention. Do not induce vomiting. Drink promptly a large quantity of milk, egg white, gelatin solution, or, if these are not available, large quantities of water. Avoid alcohol.

**IF IN EYES:** Flush with steady stream of water for 15 minutes. Get medical attention.

**IF INHALED:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

**IF ON SKIN:** Wash skin with plenty of soap and water. Get medical attention.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate use of gastric lavage.

**ANTIDOTE:** None known. Treat symptomatically.

### SECTION 5 - FIRE FIGHTING MEASURES

**FLASHPOINT (method):** Will not flash.

**FLAMMABLE LIMITS (LFL-UFL):** Not applicable.

**FIRE AND EXPLOSION HAZARD:** Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

**EXTINGUISHING MEDIA:** Use foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material.

**FIRE FIGHTING INSTRUCTIONS:** Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Foam or dry chemical fire extinguishing systems are preferred to prevent excessive water run off.

**FIRE FIGHTING EQUIPMENT:** Self-contained breathing apparatus with full facepiece. Full fire fighting turn-out gear (Bunker gear).

**HAZARDOUS COMBUSTION PRODUCTS:** Oxides of copper.

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

Clean up spills immediately, observing precautions in Protective Equipment section. Isolate hazard area. Keep unnecessary personnel from entering.

**SMALL SPILL:** Vacuum or sweep up material and place in a container for reuse or disposal.

**LARGE SPILL:** Vacuum or sweep up material and place in a container for reuse or disposal. After removal, flush contaminated area thoroughly with water.

### SECTION 7 - HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN!

**HANDLING:** Use only in a well-ventilated area. Minimize dust generation and accumulation.

**STORAGE:** Keep away from food, feed and drinking water. Store in a well ventilated, dry place away from heat and other sources of ignition.

### SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

**EXPOSURE LIMITS (8 HOUR TWA):** (Refer to Section 3)

**ENGINEERING CONTROLS:** Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**PERSONAL PROTECTIVE EQUIPMENT:**

EYE PROTECTION - Safety goggles or full face shield.

CLOTHING - Long-sleeved shirt and long pants. Shoes plus socks.

GLOVES - Waterproof gloves.

RESPIRATOR - When handling in enclosed areas where exposure limits may be exceeded, use a dust/mist respirator (MSHA/NIOSH approval number prefix TC-21C).

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:**

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL DESCRIPTION:** Fine, blue-green powder.

**ODOR:** No appreciable odor.

**MOLECULAR WEIGHT (technical):** 97.6

**MOLECULAR FORMULA (technical):** Cu(OH)<sub>2</sub>

**BOILING POINT:** Not applicable.

**FREEZING POINT:** Not applicable.

**BULK DENSITY:** 35 lbs./ft<sup>3</sup>

**pH:** 6.5 (1% w/w in water)

**VAPOR PRESSURE:** Not applicable.

**% VOLATILE:** < 1%

**WATER SOLUBILITY:** Dispersible.

### SECTION 10 - STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable, however may decompose if heated.

**CONDITIONS TO AVOID:** Avoid temperatures above 125°F (50°C). Avoid exposure to high moisture conditions for prolonged periods.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Acidic conditions and materials, ammonia. Copper is corrosive to aluminum, especially when in an aqueous state and at elevated temperatures (> 75 F).

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of copper.

**HAZARDOUS POLYMERIZATION:** Product will not undergo polymerization.

### SECTION 11 - TOXICOLOGICAL INFORMATION

#### **ACUTE TOXICITY:**

Oral LD <sub>50</sub> (rat)	-	1,200 mg/Kg
Dermal LD <sub>50</sub> (rat)	-	> 2,000 mg/Kg
Inhalation LC <sub>50</sub> (rat)	-	> 2.0 mg/L
Eye Irritation (rabbit)	-	Severe, corrosive
Skin Irritation (rabbit)	-	Slight
Sensitization (guinea pig)	-	Non-sensitizer

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Acute asthma and/or other chronic pulmonary diseases due to inhalation of dust or spray mists.

#### **CARCINOGEN STATUS:**

OSHA	-	Not listed.
NTP	-	Not listed.
IARC	-	Not listed.

**MUTAGENIC DATA:** No evidence of effects during *in vivo* or *in vitro* studies.

**ADDITIONAL DATA:** Not known to exhibit reproductive or teratogenic (birth defect) effects.

### SECTION 12 - ECOLOGICAL INFORMATION

**ENVIRONMENTAL SUMMARY:** This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water, or to areas where surface water is present. Do not contaminate water when disposing of equipment washwaters.

#### **FISH TOXICITY:** (Technical)

96 hour LC<sub>50</sub>, Rainbow trout - 25 ug/L

96 hour LC<sub>50</sub>, Bluegill - 180 ug/L

#### **AVIAN TOXICITY:** (Technical)

Oral LD<sub>50</sub>, Bobwhite quail - 3,400 mg/Kg

Oral LD<sub>50</sub>, Mallard duck - > 5,000 mg/Kg

**BEE TOXICITY:** Non-toxic.

**SECTION 13 - DISPOSAL CONSIDERATIONS**

**WASTE:** Pesticide wastes are toxic. Dispose of in accordance with applicable Federal, state and local laws and regulations.

**CONTAINER:** Refer to product label.

**SECTION 14 - TRANSPORT INFORMATION**

**DOT SHIPPING DESCRIPTION:** Agricultural Fungicides, Solid, N.O.I.B.N

**DOT HAZARD CLASS:** None

**UN NUMBER:** None

**DOT PACKING GROUP:** NA

**DOT PRIMARY/SECONDARY LABEL:** NA

**DOT PRIMARY/SECONDARY PLACARD:** NA

**DOT EMERGENCY RESPONSE GUIDE #:** NA

**SECTION 15 - REGULATORY INFORMATION**

**FIFRA:** All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act. The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide.

**OSHA HAZARD COMMUNICATION STANDARD STATUS:** Regulated

**CERCLA REPORTABLE QUANTITY:** 5000#s

**SARA TITLE III STATUS:**

302 Extremely Hazardous Substance - No

311/312 Hazard Categories - Immediate

313 Toxic Chemicals - None

**CALIFORNIA PROP 65 STATUS:** Not Listed

**SECTION 16 - OTHER INFORMATION**

**DISCLAIMER:** The information presented herein is based on available data from reliable sources and is correct to the best of Micro Flo's knowledge. Micro Flo makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

**REVISED DATE:** July 14, 1999

**REVISED FOR:** Addition of Poison Control Emergency Numbers

**PREPARED BY:** M. Gaskins

**REVIEWED BY:** S. McNeal

**APPROVED BY:** K. Branly